THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 38

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MICHAEL E. RORABAUGH, DARRYL F. GARRIGUS
and JURIS VERZEMNIEKS

Appeal No. 1997-0540
Application No. 08/209,847

ON BRIEF

Before GARRIS, LIEBERMAN and ROBINSON, Administrative Patent Judges.

GARRIS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal which involves claims 9, 11, 12, 14, 15 and 22. The only other claims remaining in the

application, which are claims 1 through 8 and 10 have been allowed by the examiner.

The subject matter on appeal relates to a process for forming a ceramic insulation which includes the step of diffusing a catalyst into a mat impregnated with a sol for a catalyst soak time during which the catalyst diffuses into the mat and causes the sol to gel. The appealed subject matter also relates to the ceramic insulation produced by a process of the type previously described. This appealed subject matter is adequately illustrated by independent claim 11 which reads as follows:

11. A process for forming a ceramic insulation comprising the steps of:

(a) forming a slurry of ceramic components selected from the group consisting of fibers, microparticles, and mixtures thereof, an effective amount of a metal powder and, optionally, any of (i) a dispersant, (ii) a flocculant, or (iii) fugitive microparticles;

(b) molding the slurry to form a mat having a thickness;

(c) impregnating the mat with a sol;

(d) diffusing a catalyst for the sol into the impregnated mat for a catalyst soak time during which the catalyst diffuses into the mat and causes the sol to gel; and

(e) drying the mat to produce the ceramic insulation.

The references relied upon by the examiner as evidence of obviousness are:

Ardary et al. (Ardary)	3,702,279	Nov. 07, 1972
Thompson	4,632,944	Dec. 30, 1986
Bendig	5,041,321	Aug. 20, 1991
Lespade et al. (Lespade)	5,126,087	Jun. 30, 1992

All of the claims on appeal are rejected under 35 U.S.C. § 103 as being unpatentable over Ardary in view of Lespade or Bendig and Thompson.[1]

For a complete exposition of the respective viewpoints expressed by the appellants and the examiner concerning the above-noted rejection, we refer to the Brief filed August 5, 1996 and Reply Brief as well as to the Answer for a complete exposition thereof.

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[1] Although the appellants have indicated that each of the appealed claims should be separately considered (see page 6 of the Brief), only claims 9, 11 and 12 have been separately argued within a reasonable specificity. See In re Nielson, 816 F.2d 1567, 1572, 2 USPQ2d 1525, 1528; Ex parte Schier, 21 USPQ2d 1016, 1018; and 37 CFR § 1.192(c)(7) and (c)(8) (1995). Accordingly, in our disposition of this appeal, we will separately consider only claims 9, 11 and 12.

OPINION

For the reasons set forth below, we will sustain the examiner's § 103 rejection of claims 11, 12, 14, 15 and 22 but not the corresponding rejection of claim 9.

Appealed claim 9 is directed to the ceramic insulation produced by the process of now-allowed independent claim 1. This last mentioned claim defines a step of "converting the metal in the mat to a ceramic to form bonds between the ceramic fibers, microparticles, and mixtures thereof." Thus, in order to render product claim 9 unpatentable, the applied prior art must contain some teaching or suggestion of ceramic insulation which contains bonds of the aforementioned type described by process claim 1.

However, as discussed more fully below, the prior art relied upon by the examiner regarding metal concerns its use as an opacifier rather than as an ingredient to form bonds between ceramic components. In addition, there is no basis in the record before us for concluding that the metal-containing insulation taught or suggested by the applied prior art would inherently contain the aforementioned bonds. Indeed, the examiner has not even alleged, much less carried his burden of

evincing, that insulation of the prior art would inherently possess the bond characteristic in question. Ex parte Skinner, 2 USPQ2d 1788, 1789 (1986).

Under these circumstances, we cannot sustain the examiner's § 103 rejection of product claim 9 as being unpatentable over Ardary in view of Lespade or Bendig and Thompson.

We reach a different conclusion regarding the process claims on appeal. Although these claims require the presence of a metal powder, they contain no recitation which requires that the metal powder perform a bond-creating function. Thus, the metal powder requirement of the appealed process claims is satisfied by the applied prior art suggestion of providing ceramic insulation with metal powder functioning as an opacifier. As for the appellants' apparent belief that the aforementioned provision would not have been suggested by the applied prior art, such a belief plainly is contrary to the teachings of Ardary (e.g., see lines 52 through 62 in column 2) in combination with Thompson (e.g., see lines 49 through 52 in column 6).

According to the appellants, the examiner's § 103 rejection of the process claims on appeal is improper because Ardary contains no teaching of the here claimed catalyst diffusion/soaking step defined by independent claim 11 (also see dependent claim 12 as well as dependent claim 22). However, patentee explicitly discloses an ammonia catalyst flowing step (cf., the flowing step of appealed dependent claim 12) followed by the step of placing the so-treated material into an airtight plastic bag for a period of up to five hours to thereby effect the desired gelation (e.g., see lines 15 through 26 in column 3 and the paragraph bridging columns 3 and 4). It is clear that these steps of the Ardary process would inherently effect the catalyst diffusing/soaking step defined by appealed independent claim 11. Indeed, the appellants have conceded as much (e.g., see the second full paragraph on page 7 of the Brief). Thus, while the here claimed step in question may not be expressly taught by Ardary, it quite plainly is satisfied by this reference under the principles of inherency. Compare Kalman v. Kimberly Clark, 713 F.2d 760, 771, 218 USPQ 781, 789 (1983) and In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977).

In light of the foregoing, it is our determination that the reference evidence adduced by the examiner establishes a prima facie case of obviousness within the meaning of 35 U.S.C. § 103. In this regard, it is the appellants' basic position that they have rebutted the examiner's prima facie case of obviousness with evidence of nonobviousness in the form of declaration (i.e., the Rorabaugh Declaration of record) and specification (i.e., pages 21-23) data which is said to evince unexpected results with respect to higher Z-direction tensile strength. We cannot agree with the appellants on this matter for several reasons.

In the first place, it is not clear that the tensile strength exhibited by the inventive examples is unexpectedly superior to the comparison examples. By way of exemplification, the tensile strength exhibited by Comparison Sample A2 does not appear to be significantly different from the tensile strength exhibited by Inventive Samples B5, B6 and B8 on Declaration, page 4. Further, the declarant gives no clarifying explanation as to why the tensile strengths of Inventive Samples B5, B6 and B8 are considered to be

unexpectedly superior to the tensile strength of Comparison Sample A2.

Secondly, the data proffered by the appellants does not compare the here claimed process to the closest prior art which is the process of Ardary. This point is exemplified by the fact that the compared process in the Declaration places "the mat under a vented hood for several hours to allow excess ammonia to escape" (Declaration, page 3, first full paragraph) whereas Ardary places his mat or composite in an airtight plastic bag for up to five hours (e.g., again see the paragraph bridging columns 3 and 4). Additionally, the compared process of the Declaration included a drying step after the first sol impregnation which the declarant stated may have contributed to inferior properties (see item 7 on Declaration, page 5) whereas the Ardary process includes no drying step between the sol impregnation and gelation steps. Concerning this point, we emphasis that an applicant relying upon a comparative showing to rebut a prima facie case must compare his claimed invention with the closest prior art. In re Merchant, 575 F.2d 865, 869, 197 USPQ 785, 788 (CCPA 1978).

Finally, the appellants' proffered data is not adequate to rebut the examiner's prima facie case of obviousness because it is not commensurate in scope with the claims to which it pertains. In re Dill, 604 F.2d 1356, 1361, 202 USPQ 805, 808
(CCPA 1979). For example, the processes said by the appellants to represent their invention include parameters such as catalyst exposing and soaking times which are much more narrow in scope than the corresponding parameters of the appealed process claims. In light of the foregoing, it is our ultimate determination that the evidence of record, on balance, weighs most heavily in favor of an obviousness conclusion with respect to the appellants' process claims. We shall, therefore, sustain the examiner's § 103 rejection of process claims 11, 12, 14, 15 and 22 as being unpatentable over Ardary in view of Lespade or Bendig and Thompson.

The decision of the examiner is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

BRADLEY R. GARRIS Administrative Patent Judge	)	
PAUL LIEBERMAN Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
DOUGLAS W. ROBINSON Administrative Patent Judge	)	

BRG:clm

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